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<141> 2006-04-06

<150> PCT/US2004/033214

<151> 2004-10-07

<150> 60/509,175

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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## 5853-454.txt

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5853-454.txt

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 <211> 26  
 <212> DNA  
 <213> Streptococcus mutans

<400> 43  
 accgtccatg agctcatctg taatct 26

<210> 44  
 <211> 25  
 <212> DNA  
 <213> Streptococcus mutans

<400> 44  
 cagattatat ctagacagag gattt 25

<210> 45  
 <211> 29  
 <212> DNA  
 <213> Streptococcus mutans

<400> 45  
 taccagctgg gaatccttct atcattgta 29

## 5853-454.txt

<210> 46  
 <211> 293  
 <212> PRT  
 <213> Streptococcus mutans

<400> 46

Arg Val Phe Cys Lys Ile Val Phe Val Gln Gly Lys Glu Leu Phe Ser  
 1 5 10 15  
 Phe Ile Asp Gly His Leu Asp Ile Asn Ile Val Asn Val Ser Phe Tyr  
 20 25 30  
 Cys Ala Asn Arg Glu Val Lys Phe Leu Ser Asn Leu Leu Ile Leu Phe  
 35 40 45  
 Met Phe Gln Gln Lys Leu Ala Asn Val Leu Phe Ser Phe Cys Gln Val  
 50 55 60  
 Val Ile Val Lys Lys Val Leu Asn Ser Ile Phe Arg Ser Leu Cys Leu  
 65 70 75 80  
 Ser Leu Val Ser Phe Phe Gln Glu Arg Ile Ile Phe Lys Ile Ile Lys  
 85 90 95  
 Lys Lys Pro Ala Gly Asn Asp Gly Lys Glu Ile Phe Asn Ile Ser Ile  
 100 105 110  
 His Asn Phe Cys Ile Lys Asn Thr Val Leu Ile Asn Ser Glu Asn Asn  
 115 120 125  
 Lys Ser Val Leu Asn Asn Ser Asn Thr Gly Asn His Ser Gln Ser Asp  
 130 135 140  
 Phe Ile Phe Phe Thr Leu Ala Tyr Ile Phe Leu Leu Thr Ile Glu Lys  
 145 150 155 160  
 Gly Tyr Gln Ala Cys Ile Lys Gln Lys Gln Leu Ile Trp Val Ile Glu  
 165 170 175  
 Val Tyr Leu Cys Ser Cys Ile Gly Gln Trp Trp Glu His Lys Glu Lys  
 180 185 190  
 Asn Ser Asp Glu Val Phe Pro Pro Arg His Phe Pro Phe Thr Ile Met  
 195 200 205  
 Asn Asn Pro Leu Thr Lys Val Val Asn Glu Lys Asn Ser Cys Phe Asn  
 210 215 220

5853-454.txt

Glu Arg Ser Ser Leu Lys Gly Thr Val Val Ile Gly Ser Lys Thr Asn  
225 230 235 240

Asn Phe Ser His Asn Asn Arg Ile Ile Asp Lys Lys Glu Gln Ile Lys  
245 250 255

Arg Ser Asp Val Lys Cys Leu Leu Phe Phe Ser Tyr Lys Glu Ala Tyr  
260 265 270

Arg Lys Gly His Gly Asn Gly Ile Lys His His Ile Ile Asp Ile Asp  
275 280 285

Glu Phe Asn Phe His  
290

<210> 47  
<211> 350  
<212> PRT  
<213> Streptococcus mutans

<400> 47

Met Met Glu Met Lys Lys Ile Glu Glu Ala Ser Met Met Lys Lys Thr  
1 5 10 15

Asp Tyr Ile Thr Thr Glu Asp Phe Ser Lys Glu Glu Leu Leu Lys Leu  
20 25 30

Val Asp Leu Ser Leu Lys Ile Lys Ala Cys Ile Lys Asn Gly Tyr Tyr  
35 40 45

Pro Pro Leu Leu Glu His Lys Ser Leu Gly Met Ile Phe Gln Gln Thr  
50 55 60

Ser Thr Arg Thr Arg Val Ser Phe Glu Thr Ala Met Ser Gln Leu Gly  
65 70 75 80

Gly His Ala Gln Tyr Leu Ala Pro Gly Gln Ile Gln Leu Gly Gly His  
85 90 95

Glu Thr Ile Glu Asp Thr Ser Thr Val Leu Ser Arg Leu Asp Asp Ile  
100 105 110

Leu Met Ala Arg Val Glu Arg His Gln Ser Val Val Asp Leu Ala Arg  
115 120 125

Cys Ala Ser Ile Pro Val Ile Asn Gly Met Ser Asp Tyr Asn His Pro  
130 135 140

## 5853-454.txt

Thr Gln Glu Leu Gly Asp Leu Cys Thr Met Ile Glu His Leu Pro Ala  
 145 150 155 160

Gly Lys Lys Leu Glu Asp Cys Lys Val Val Phe Val Gly Asp Ala Thr  
 165 170 175

Gln Val Cys Phe Ser Leu Ala Leu Ile Thr Thr Lys Met Gly Met Glu  
 180 185 190

Phe Val His Phe Gly Pro Lys Gly Phe Gln Leu Asn Asp Met His Lys  
 195 200 205

Glu Lys Leu Asp Lys Ile Cys Glu Arg Ser Gly Gly Lys Tyr Thr Val  
 210 215 220

Thr Asp Asn Glu Asp Ala Ile Glu Gly Ala Asp Phe Leu Tyr Thr Asp  
 225 230 235 240

Val Trp Tyr Gly Leu Tyr Glu Ala Glu Leu Ser Glu Glu Glu Arg Met  
 245 250 255

Gln Ile Phe Phe Pro Lys Tyr Gln Val Asp Ser Gln Met Met Ala Lys  
 260 265 270

Ala Gly Ala Asp Cys Lys Phe Met His Cys Leu Pro Ala Thr Arg Gly  
 275 280 285

Glu Glu Ile Thr Asp Glu Val Met Asp Gly Pro His Ser Ile Cys Phe  
 290 295 300

Asp Glu Ala Glu Asn Arg Leu Thr Ser Ile Arg Gly Leu Leu Val Tyr  
 305 310 315 320

Leu Leu Arg Asp Tyr Arg Glu Lys Asn Pro Tyr Asp Leu Val Lys Gln  
 325 330 335

Glu Lys Ala Lys Glu Glu Leu Glu Thr Phe Leu Lys Pro Glu  
 340 345 350

<210> 48

<211> 452

<212> PRT

<213> Streptococcus mutans

<400> 48

Met Glu Gly Lys Lys Lys Phe Ser Leu Phe Ser Ala Val Leu Ser Val  
 1 5 10 15

## 5853-454.txt

Ile Cys Val Val Phe Val Ala Glu Ala Ala Ala Pro Val Ala Ala Ile  
 20 25 30  
 Gly Asn Ser Gln Phe Phe Trp Trp Leu Phe Leu Leu Ile Ala Phe Leu  
 35 40 45  
 Leu Pro Tyr Gly Leu Ile Ser Ser Glu Leu Gly Thr Thr Tyr Ile Gly  
 50 55 60  
 Asp Gly Gly Ile Tyr Asp Trp Val Thr Lys Ala Phe Gly His Lys Trp  
 65 70 75 80  
 Gly Ser Arg Val Ala Trp Tyr Tyr Trp Ile Asn Phe Pro Leu Trp Leu  
 85 90 95  
 Ala Ser Leu Ala Val Met Thr Pro Gly Leu Leu Thr Thr Val Thr Gly  
 100 105 110  
 His Asn Phe Ser Thr Val Thr Ala Ile Ile Val Glu Leu Ile Phe Ile  
 115 120 125  
 Trp Leu Val Ile Trp Ile Ser Phe Tyr Pro Val Ser Asp Ser Ile Trp  
 130 135 140  
 Ile Leu Asn Gly Ala Ala Val Ile Lys Met Leu Leu Ala Leu Leu Val  
 145 150 155 160  
 Gly Gly Leu Gly Leu Tyr Val Ala Leu Thr Lys Gly Met Ala Asn Glu  
 165 170 175  
 Met Thr Leu Lys Ser Leu Leu Pro Ser Phe Asn Leu Asn Ser Leu Ser  
 180 185 190  
 Tyr Ile Ser Val Ile Ile Phe Asn Leu Leu Gly Phe Glu Val Ile Cys  
 195 200 205  
 Thr Phe Ala Gly Asp Met Glu Asn Pro Lys Lys Gln Ile Pro Gln Ser  
 210 215 220  
 Ile Ile Val Ala Gly Leu Val Ile Ala Ala Ile Tyr Ile Phe Ser Ala  
 225 230 235 240  
 Phe Gly Ile Gly Val Ser Ile Pro Thr Asp Lys Ile Ser Thr Ser Ser  
 245 250 255  
 Gly Met Met Asp Ser Phe Lys Leu Leu Thr Gly Ser Thr Gly Gly Trp  
 260 265 270

5853-454.txt

Phe Ile Met Thr Met Ala Phe Leu Phe Leu Leu Thr Leu Phe Gly Asn  
275 280 285

Met Ile Ser Trp Ser Leu Gly Val Asn Asn Thr Ala Ser Tyr Ala Ala  
290 295 300

Glu Asn Gly Asp Met Pro Gln Phe Phe Ala Lys Arg Ser Arg Lys Arg  
305 310 315 320

Asp Met Pro Ile Gly Ala Ala Leu Ala Asn Gly Ile Val Ala Ser Ile  
325 330 335

Val Val Val Ile Ala Pro Phe Leu Pro Asn Gln Asp Leu Phe Trp Ala  
340 345 350

Phe Phe Ser Leu Asn Leu Val Met Phe Leu Leu Ser Tyr Val Pro Val  
355 360 365

Phe Pro Ala Phe Phe Lys Leu Arg Lys Ile Asp Pro Asp Thr Pro Arg  
370 375 380

Pro Phe Lys Val Ser Gly Asn Asp Ser Phe Leu Arg Leu Leu Val Ile  
385 390 395 400

Leu Pro Met Ile Leu Ile Ile Ile Ser Leu Ile Phe Thr Ala Leu Pro  
405 410 415

Leu Ala Phe Asp Ser Glu Thr Leu Ala Ser Lys Leu Pro Ile Thr Ile  
420 425 430

Gly Ser Leu Ile Phe Ile Gly Ile Gly Glu Leu Ile Ile Ile Ile Lys  
435 440 445

Lys Ile Lys Lys  
450

<210> 49  
<211> 369  
<212> PRT  
<213> Streptococcus mutans

<400> 49

Met Ala Lys Arg Ile Lys Asn Thr Thr Pro Lys Gln Asp Gly Phe Arg  
1 5 10 15

Met Pro Gly Glu Phe Glu Lys Gln Lys Gln Ile Trp Met Leu Trp Pro  
20 25 30

5853-454.txt

Trp Arg Asn Asp Asn Trp Arg Leu Gly Ala Lys Pro Ala Gln Lys Ala  
35 40 45

Phe Leu Glu Val Ala Glu Ala Ile Ser Glu Phe Glu Pro Val Ser Leu  
50 55 60

Cys Val Pro Pro Leu Gln Tyr Glu Asn Ala Leu Ala Arg Val Ser Glu  
65 70 75 80

Leu Gly Ser His Asn Ile Arg Ile Ile Glu Met Thr Asn Asp Asp Ala  
85 90 95

Trp Ile Arg Asp Cys Gly Pro Thr Phe Leu Val Asn Asp Lys Gly Asp  
100 105 110

Leu Arg Ala Val Asp Trp Glu Phe Asn Ala Trp Gly Gly Leu Val Asp  
115 120 125

Gly Leu Tyr Phe Pro Trp Asp Gln Asp Ala Leu Val Ala Arg Lys Val  
130 135 140

Cys Glu Ile Glu Gly Val Asp Ser Tyr Lys Thr Lys Asp Phe Val Leu  
145 150 155 160

Glu Gly Gly Ser Ile His Val Asp Gly Glu Gly Thr Val Leu Val Thr  
165 170 175

Glu Met Cys Leu Leu His Pro Ser Arg Asn Pro His Leu Thr Lys Glu  
180 185 190

Asp Ile Glu Asp Lys Leu Lys Asp Tyr Leu Asn Cys Val Lys Val Leu  
195 200 205

Trp Val Lys Asp Gly Ile Asp Pro Tyr Glu Thr Asn Gly His Ile Asp  
210 215 220

Asp Val Ala Cys Phe Ile Arg Pro Gly Glu Val Ala Cys Ile Tyr Thr  
225 230 235 240

Asp Asp Lys Glu His Pro Phe Tyr Gln Glu Ala Lys Ala Ala Tyr Asp  
245 250 255

Phe Leu Ser Gln Gln Thr Asp Ala Lys Gly Arg Pro Leu Lys Val His  
260 265 270

Lys Met Cys Val Thr Lys Glu Pro Cys Tyr Leu Gln Glu Ala Ala Thr  
275 280 285

5853-454.txt

Ile Asp Tyr Val Glu Gly Ser Ile Pro Arg Glu Glu Gly Glu Met Ala  
290 295 300

Ile Ala Ser Tyr Leu Asn Phe Leu Ile Val Asn Gly Gly Ile Ile Leu  
305 310 315 320

Pro Gln Tyr Gly Asp Glu Asn Asp Gln Leu Ala Lys Gln Gln Val Gln  
325 330 335

Glu Met Phe Pro Asp Arg Lys Val Val Gly Val Arg Thr Glu Glu Ile  
340 345 350

Ala Tyr Gly Gly Gly Asn Ile His Cys Ile Thr Gln Gln Gln Pro Ala  
355 360 365

Thr

<210> 50  
<211> 316  
<212> PRT  
<213> Streptococcus mutans

<400> 50

Met Ala Lys Arg Lys Ile Val Ile Ala Leu Gly Gly Asn Ala Ile Leu  
1 5 10 15

Ser Arg Asp Ala Ser Ala Lys Ala Gln Gln Ala Ala Leu Ala Gln Thr  
20 25 30

Ala Lys Tyr Leu Val Gln Phe Ile Lys Asn Gly Asp Asp Leu Val Ile  
35 40 45

Thr His Gly Asn Gly Pro Gln Val Gly Asn Leu Leu Leu Gln Gln Thr  
50 55 60

Ala Ala Asp Ser Tyr Asp Asn Pro Ala Leu Pro Leu Asp Thr Leu Val  
65 70 75 80

Ala Met Thr Glu Gly Ser Ile Ser Tyr Trp Leu Gln Asn Ala Leu Ile  
85 90 95

Asn Glu Leu Arg Lys Gln Ser Ile Asp Lys Glu Val Val Ser Met Val  
100 105 110

Thr Glu Val Leu Val Ser Ala Glu Asp Pro Ala Phe Asp His Pro Ser  
115 120 125



5853-454.txt

Lys Pro Ile Gly Pro Phe Leu Ser Glu Glu Glu Ala Tyr Leu Gln Glu  
 130 135 140  
 Lys Met Thr Gly Ala Thr Tyr Lys Val Asp Ala Gly Arg Gly Trp Arg  
 145 150 155 160  
 Lys Val Val Ala Ser Pro Lys Pro Ile Ala Ile Gln Glu Ile Ala Thr  
 165 170 175  
 Ile Lys Ser Leu Leu Asn Thr Gly Ala Val Val Ile Thr Ala Gly Gly  
 180 185 190  
 Gly Gly Ile Pro Val Ile Glu Asp Pro Lys Thr Lys Glu Leu Met Gly  
 195 200 205  
 Val Glu Ala Val Ile Asp Lys Asp Phe Ala Ser Gln Leu Leu Ala Glu  
 210 215 220  
 Lys Ile Lys Ala Asp Leu Phe Ile Ile Leu Thr Gly Val Asp His Val  
 225 230 235 240  
 Tyr Ile His Tyr Gly Gln Pro Asn Gln Glu Lys Leu Glu Lys Val Thr  
 245 250 255  
 Ala Ser Gln Leu Lys Ala Trp Lys Asp Gln Gln Gln Phe Ala Ala Gly  
 260 265 270  
 Ser Met Leu Pro Lys Val Glu Ala Ala Ile Ala Phe Val Glu Ala His  
 275 280 285  
 Pro Ser Gly Lys Ala Ile Ile Thr Ser Leu Glu Asn Ile Ala Asn Val  
 290 295 300  
 Ile Ser Glu Gly Ser Gly Thr Gln Ile Thr Ala Asn  
 305 310 315